

1 **GUAM CONSOLIDATED COMMISSION ON UTILITIES**

2 **RESOLUTION NO. 56-FY2016**

3 **RELATIVE TO APPROVAL OF CHANGE ORDER NO. 2 FOR THE NORTHERN**  
4 **AND SOUTHERN GUAM RESERVOIR DESIGN SERVICES**

5  
6 **WHEREAS**, under 12 G.C.A. § 14105, the Consolidated Commission on Utilities  
7 (“CCU”) has plenary authority over financial, contractual and policy matters relative to the  
8 Guam Waterworks Authority (“GWA”); and

9  
10 **WHEREAS**, the Guam Waterworks Authority (“GWA”) is a Guam Public Corporation  
11 established and existing under the laws of Guam; and

12  
13 **WHEREAS**, GWA is currently working on critical reservoir projects under the 2011  
14 Court Order (“CO”) Paragraph 29 – Storage Tank/Reservoir Repair, Replacement, and  
15 Relocation Program; and

16  
17 **WHEREAS**, Resolution No. 20-FY2015 (See Exhibit A) authorized GWA management  
18 to enter into a contract with TG Engineers, P.C. in the amount of Two Million Five Hundred  
19 Thirty Two Thousand Five Hundred Eighty Dollars (\$2,532,580.00) to provide design services  
20 for the Northern and Southern Guam Reservoirs, which includes:

- 21 (1) site investigations and system evaluations at Santa Rosa, Santa Rita, Sinifa, Inarajan, and  
22 Ugum reservoir sites, and  
23  
24 (2) development of design plans and specifications for various sized concrete reservoirs  
25 ranging from 1.0 MG to 2.0 MG nominal capacities, instrumentation and control  
26 upgrades, control valves upgrades, pipe upgrades, new booster station, and other general  
27 site and system upgrades; and

28  
29 **WHEREAS**, Resolution No. 20-FY2015 further authorized on top of the contract  
30 amount a ten percent (10%) contingency of Two Hundred Fifty Three Thousand Two Hundred  
31 Fifty Eight Dollars (\$253,258.00) bringing the total authorized funding to a maximum of Two  
32

1 Million Seven Hundred Eighty Five Thousand Eight Hundred Thirty Eight Dollars  
2 (\$2,785,838.00); and  
3

4 **WHEREAS**, GWA issued Change Order No. 1 to TG Engineers, P.C. for additional  
5 services that were required due to needs for land acquisition for various project sites using the  
6 approved contingency funding in the amount of Fifty One Thousand Three Hundred Forty One  
7 Dollars and Fifty Cents (\$51,341.50) in which the total value of the Contract was increased to  
8 Two Million Five Hundred Eighty Three Thousand Nine Hundred Twenty One Dollars and  
9 Fifty Cents (\$2,583,921.50); and  
10

11 **WHEREAS**, in the course of the design and analysis of the reservoirs and the water  
12 system served by the noted reservoirs additional design services listed below was identified as  
13 being necessary to meet new building code requirement and to improve the functionality of the  
14 water systems (See Exhibit B – Scope of Work and Fees):  
15

- 16 (1) design for several additions and revisions to the pipe system to complete the pressure  
17 zone realignment which includes surveying and environmental services for Santa Rita  
18 and Santa Rosa Reservoirs,
- 19 (2) design for the new UFC structural code requirements for Ugum, Santa Rosa, Santa Rita  
20 and Sinifa Reservoirs; and Inarajan Booster Pump Station,
- 21 (3) additional land acquisition support for the Government of Guam Chamorro Land Trust  
22 Commission (CLTC) property, additional Archaeological and Unexploded Ordinance  
23 (UXO) monitoring, and design to include the new GWA-AAFB tank interconnection  
24 system for the Santa Rosa Reservoir,
- 25 (4) design for new Booster Pump Station and a new Pressure Reducing Valve (PRV) to be  
26 added into the system in the vicinity of Agfayan Subdivision in Inarajan as part of the  
27 pressure zone realignment plan,
- 28 (5) percolation tests to be included at each project site location for drainage basins,
- 29 (6) design to incorporate the Siemens controls from the existing Ugum plant to be extended  
30 to the new Ugum Reservoir and facilities; and  
31  
32

1           **WHEREAS**, GWA engineering and TG Engineers, P.C. negotiated the price for the  
2 services to be provided in the amount of Five Hundred Three Thousand One Hundred Ten  
3 Dollars and Fifty Cents (\$503,110.50); and  
4

5           **WHEREAS**, GWA Management is seeking CCU approval of additional funding in  
6 the amount of Three Hundred One Thousand One Hundred Ninety Four Dollars (\$301,194.00)  
7 which is the balance needed above the remaining contingency that will fund Change Order No.  
8 2; and  
9

10           **WHEREAS**, GWA Management further seeks CCU approval of the total authorized  
11 funding for the design contract with TG Engineers, P.C. to Three Million Eighty Seven  
12 Thousand Thirty Two Dollars (\$3,087,032.00); and  
13

14           **WHEREAS**, funding for this project will be from 2013 and/or 2015 Bond Funds under  
15 CIP line item PW 09-11 Water System Reservoirs 2005 Improvements; and  
16

17           **NOW BE IT THEREFORE RESOLVED**, the Consolidated Commission on Utilities  
18 does hereby approve and authorize the following:  
19

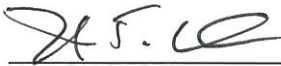
- 20           1. The recitals set forth above hereby constitute the findings of the CCU.
- 21           2. The CCU finds that the terms of the fee proposal submitted by TG  
22           Engineers, P.C. are fair and reasonable.
- 23           3. The CCU finds that the terms of the conditions set by GWA relative to  
24           commencement of subsequent work activities are fair and reasonable and  
25           serve as a measure of Quality Assurance/Quality Control (QA/QC).
- 26           4. The CCU hereby authorizes GWA management to execute Change Order No.  
27           2 in the amount of Five Hundred Three Thousand One Hundred Ten Dollars  
28           and Fifty Cents (\$503,110.50) (Exhibit B).
- 29           5. The CCU further approves increasing the total authorized funding for the  
30           design contract with TG Engineers, P.C to Three Million Eighty Seven  
31           Thousand Thirty Two Dollars (\$3,087,032.00);  
32

1                   6. Funding source will be CIP PW 09-11 Water System Reservoir 2005  
2                   Improvements.

3  
4                   **RESOLVED**, that the Chairman certified and the Board Secretary attests to the  
5 adoption of this Resolution.

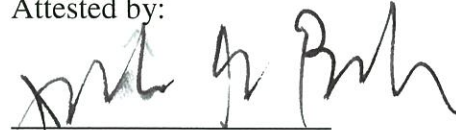
6  
7                   **DULY AND REGULARLY ADOPTED**, this 23<sup>rd</sup> day of August, 2016.

8  
9                   Certified by:

10  
11                   

12                   **JOSEPH T. DUENAS**  
13                   Chairperson

14                   Attested by:

15                   

16                   **J. GEORGE BAMBA**  
17                   Secretary

18                   I, J. George Bamba, Board Secretary of the Consolidated Commission on Utilities as  
19 evidenced by my signature above do hereby certify as follows:

20                   The foregoing is a full, true and accurate copy of the resolution duly adopted at a regular  
21 meeting by the members of the Guam Consolidated Commission on Utilities, duly and  
22 legally held at a place properly noticed and advertised at which meeting a quorum was  
23 present and the members who were present voted as follows:

24                   AYES:                   \_\_\_\_\_ 4 \_\_\_\_\_  
25                   NAYS:                   \_\_\_\_\_ 0 \_\_\_\_\_  
26                   ABSTENTIONS:       \_\_\_\_\_ 0 \_\_\_\_\_  
27                   ABSENT:               \_\_\_\_\_ 1 \_\_\_\_\_



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29                   ///

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# Exhibit A (1 of 4)

## GUAM CONSOLIDATED COMMISSION ON UTILITIES RESOLUTION NO. 20 – FY2015

### RELATIVE TO CONTRACT APPROVAL FOR THE NORTHERN AND SOUTHERN GUAM RESERVOIRS DESIGN SERVICES

1  
2  
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4  
5       **WHEREAS**, under 12 G.C.A. § 14105, the Consolidated Commission on Utilities  
6 (“CCU”) has plenary authority over financial, contractual and policy matters relative to the  
7 Guam Waterworks Authority (“GWA”); and  
8

9       **WHEREAS**, the Guam Waterworks Authority (“GWA”) is a Guam Public Corporation  
10 established and existing under the laws of Guam; and  
11

12       **WHEREAS**, GWA is currently working on critical reservoir projects under the 2011  
13 Court Order (“CO”) Paragraph 29 – Storage Tank/Reservoir Repair, Replacement, and  
14 Relocation Program; and  
15

16       **WHEREAS**, GWA has advertised the Request For Proposals (RFP-09-ENG-2014)  
17 soliciting statement of qualifications from experienced and qualified engineering firms for the  
18 preparation of design plans and specifications for the Northern and Southern Guam Reservoirs;  
19 and  
20

21       **WHEREAS**, the Northern and Southern Guam Reservoir design project includes site  
22 investigations and system evaluations at the Santa Rita, Santa Rosa, Inarajan, Sinifa, and Ugum  
23 reservoir sites, development of design plans and specifications for various sized concrete  
24 reservoirs ranging from 0.2 MG to 2.0 MG nominal capacities, booster station upgrades,  
25 instrumentation and control upgrades, control valves upgrades, pipe upgrades, and other  
26 general site upgrades; and  
27

28       **WHEREAS**, RFP packages were downloaded by forty five (45) interested parties,  
29 from which GWA received proposal submittals from ten (10) firms before the RFP submittal  
30 deadline; and  
31  
32

# Exhibit A (2 of 4)

1           **WHEREAS**, the GWA A-E Selection committee reviewed and evaluated the ten (10)  
2 proposals (see EXHIBIT A – Evaluation Score) and generated a short list of the top four (4)  
3 firms with a recommendation to award a contract to the firm TG Engineers, P.C. and any  
4 successor at interest thereto (see EXHIBIT B – Evaluation Summary and GM Determination);  
5 and

6  
7           **WHEREAS**, TG Engineers, P.C. and GWA negotiated the price for the services to be  
8 provided in the amount of Two Million Five Hundred Thirty Two Thousand Five Hundred  
9 Eighty Dollars (\$2,532,580.00) (see EXHIBIT C – Fee Proposal); and

10  
11           **WHEREAS**, GWA management seeks approval of the fee proposal amount of Two  
12 Million Five Hundred Thirty Two Thousand Five Hundred Eighty Dollars (\$2,532,580.00),  
13 plus a ten percent (10%) contingency of Two Hundred Fifty Three Thousand Two Hundred  
14 Fifty Eight Dollars (\$253,258.00) to bring the total authorized funding amount to a maximum  
15 of Two Million Seven Hundred Eighty Five Thousand Eight Hundred Thirty Eight Dollars  
16 (\$2,785,838.00); and

17  
18           **WHEREAS**, funding for this project will be from the 2010 and 2013 Bond Funds  
19 under the line items CIP PW 09-11 Water System Reservoirs 2005 Improvements and CIP PW  
20 11-02 Ugum Water Treatment Plant Reservoir Replacement; and

21  
22           **WHEREAS**, GWA management recommends that a contract be entered into with TG  
23 Engineers, P.C. in the aforementioned base contract amount.

24  
25           **NOW BE IT THEREFORE RESOLVED**, the Consolidated Commission on Utilities  
26 does hereby approve the following:

- 27  
28           1. The recitals set forth above hereby constitute the findings of the CCU.  
29           2. The CCU finds that the terms of the fee proposal submitted by TG  
30 Engineers, P.C. is fair and reasonable.  
31  
32

# Exhibit A (3 of 4)

- 1 3. The CCU finds that the terms of the conditions set by GWA relative to  
2 commencement of subsequent work activities are fair and reasonable and  
3 serve as a measure of Quality Assurance/Quality Control (QA/QC).
- 4 4. The CCU hereby authorizes the management of GWA to enter into a  
5 contract with TG Engineers, P.C., in the amount of Two Million Five  
6 Hundred Thirty Two Thousand Five Hundred Eighty Dollars  
7 (\$2,532,580.00).
- 8 5. The CCU hereby further approves the total funding amount for this project  
9 of Two Million Five Hundred Thirty Two Thousand Five Hundred Eighty  
10 Dollars (\$2,532,580.00), plus a ten percent (10%) contingency of Two  
11 Hundred Fifty Three Thousand Two Hundred Fifty Eight Dollars  
12 (\$253,258.00) to bring the total authorized funding amount to a maximum of  
13 Two Million Seven Hundred Eighty Five Thousand Eight Hundred Thirty  
14 Eight Dollars (\$2,785,838.00).

15  
16 **RESOLVED**, that the Chairman certified and the Board Secretary attests to the  
17 adoption of this Resolution.

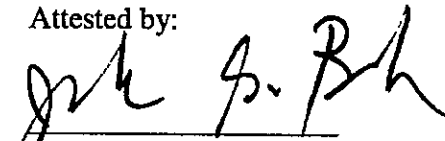
18  
19 **DULY AND REGULARLY ADOPTED**, this 24<sup>th</sup> day of March 2015.

20  
21 Certified by:

22 

23 **JOSEPH T. DUENAS**  
24 Chairperson

21 Attested by:

22 

23 **J. GEORGE BAMBA**  
24 Secretary

25  
26 I, J. George Bamba, Board Secretary of the Consolidated Commission on Utilities as  
27 evidenced by my signature above do hereby certify as follows:

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# Exhibit A (4 of 4)

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The foregoing is a full, true and accurate copy of the resolution duly adopted at a regular meeting by the members of the Guam Consolidated Commission on Utilities, duly and legally held at a place properly noticed and advertised at which meeting a quorum was present and the members who were present voted as follows:

AYES:	<u>5</u>
NAYS:	<u>0</u>
ABSTENTIONS:	<u>0</u>
ABSENT:	<u>0</u>



# Exhibit B (1 of 31)

## TG ENGINEERS, PC

August 11, 2016

Mr. Miguel Bordallo, PE  
General Manager  
Guam Waterworks Authority  
Gloria B. Nelson Public Service Building, Room 202  
688 Route 15  
Mangilao, Guam 96913

ATTN: Mr. Marc Lopez, Project Engineer

**RE: PW 09-11 Northern and Southern Guam Reservoirs: GWA Project No. W14-007-BND, Change Order No. 2 - Fee Proposal**

Hafa adai Marc,

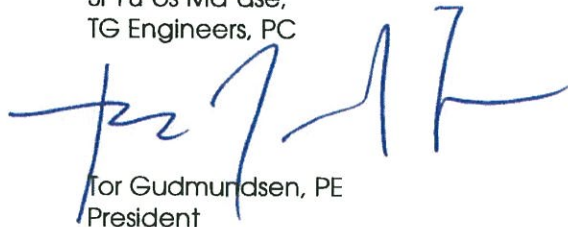
TG Engineers, PC (TGE) is pleased to submit our updated Scope of Work and Fee Proposal for the reservoir project Change Order No. 2. We are submitting the proposal file in pdf format by email.

Note we have followed the format from the original project proposal and created the general part of the Scope of Work and then have Attachments A - E with the specific scope for each tank and pump station project.

We look forward to your favorable review and reaching an agreement on the Scope and Fee. Let us know if we will schedule a final review meeting.

Please call Teena Barnes or myself directly at 647-0808 with any questions.

Si Yu'os Ma'ase,  
TG Engineers, PC



Tor Gudmundsen, PE  
President

Attachments:

Scope of Work  
Dated 8/11/16, 18-pages

Fee Proposal Spreadsheets  
Dated 8/11/16, 12-pages

# Exhibit B (2 of 31)

TG Engineers, PC

## **DESIGN OF NORTHERN AND SOUTHERN GUAM RESERVOIRS, PROJECT NO. 2** **CHANGE ORDER NO. 2 – SCOPE OF WORK**

### **1. INTRODUCTION**

TG Engineers, PC (TGE) is under contract with the Guam Waterworks Authority (GWA) for the Design of Northern and Southern Guam Reservoirs. The work completed to date is certain Preliminary Services and the Basis of Design Reports. The findings from the completed work determined there are additional services required to proceed with the project. Change Order No. 1 was processed for land acquisition support services and Change Order No. 2 is proposed to include the other additional services as follows.

### **2. SCOPE OF SERVICES**

#### 2.1 GENERAL DESCRIPTION OF SERVICES

##### A. Pressure Zone Re-alignment

The Brown & Caldwell Report, Pressure Zone Realignment and Pressure Improvement Draft Version 2, May 8, 2015 includes several additions and revisions to the pipe system to complete the pressure zone re-alignment within the project areas. The changes are described as follows.

##### A1 – Santa Rosa

- 1) Construct 2-jumper lines with 8-inch & 6-inch pipes and gate valves, the lines are approximately 50-ft length each and located in public ROW or utility easement areas.

##### A2 – Santa Rita

- 1) Construct 4-jumper lines with 8, 12 & 16-inch pipes and gate valves, the lines are approximately 50-ft length each and located in public ROW or utility easement areas.
- 2) Abandon 1-PRV and replace with a pipe spool, demolish the vault and restore the vault surface area.
- 3) Install a gate valve on a 2-inch line.
- 4) Install replacement PRV's at 3-locations.
- 5) Install 2-PRV's as part of the temporary work needed for the tank replacement.

##### A3 – Inarajan BPS

- 1) Install 1-PRV between Malojloj and Inarajan at the site suggested by the B&C report or an appropriate site as determined by the design team.

##### B. Seismic Criteria Change – All Sites

- 1) Review the new UFC structural code requirements and develop opinions on whether they should be incorporated into the project design. Develop concepts for the implementation of the new codes with construction and design cost estimates.

# Exhibit B (3 of 31)

TG Engineers, PC

- 2) Expand the tank and foundation structural design task to incorporate the new code requirements. The work will impact the following 4-reservoir sites:

- Ugum
- Santa Rosa
- Santa Rita
- Sinifa

For consistency, implementation of the new code requirements will also be applied to the new pump station sites, relative to building design.

## C. Land Acquisition Support – Privately Owned Properties

### 2.2 SANTA ROSA RESERVOIR SITE

A temporary access road will be constructed for the drill rig access to the soil boring sites. The Archaeological Survey completed recommended there should be Archaeological and Unexploded Ordnance (UXO) monitoring during the road construction.

Provide UXO monitoring for 2-days during construction of the temporary access road and site grading. Complete and process approval for a work plan and a brief summary report.

Provide Archaeological monitoring for 2-days during construction of the temporary access road and site grading. The scope will include writing and processing approval for the Work Plan. After the monitoring work a summary report will be processed for approval.

An agreement has been reached between the Government of Guam (GWA) and Andersen AFB to connect the project tank and facilities with the adjacent AAFB tank to facilitate emergency shared operations if needed in the future.

Add the new pump house building and 1-each inflow / outflow concrete meter vaults.

### 2.3 AGFAYAN BOOSTER PUMP STATION SITE

A new Booster Pump station will be added to the system in the vicinity of the Agfayan Subdivision in Inarajan. The facility will be called the Agfayan Booster Pump Station.

### 2.4 UGUM CONTROL (SIEMENS) INTERFACE

The existing Ugum Plant has Siemens controls that will be coordinated for extension to incorporate the new tank and facilities.

## 3. DESIGN PARAMETERS

# Exhibit B (4 of 31)

## TG Engineers, PC

The design of the pump station shall be in accordance with the applicable criteria and standards of the existing contract documents and the following. All standards shall be of the most current edition, unless otherwise specified.

- A. US Navy, Unified Facilities Criteria Structural Engineering, 2013

**4 - 10. No change.**

### **ATTACHMENTS:**

- A. Ugum Reservoir Site
- B. Santa Rita Reservoir Site
- C. Santa Rosa Reservoir Site
- D. Sinifa Reservoir Site
- E. Agfayan Pump Station Site
- F. Inarajan Pump Station Site

## Attachment A – Ugum Reservoir Site

### A. Preliminary Design

1. GWA has added the new UFC Structural Engineering, 2013 code to the design criteria to be followed for the project and each tank and pump station site.
2. The Siemens controls for the existing plant will be extended to incorporate the new facilities. A local integrator will be selected on a sole source basis to provide the services.

### B. Design

1. Modify Basis of Design Report.
  - a. Incorporate the UFC code and issue an addendum to the BOD with the project design submittals.
  - b. Include the Siemens controls extension concept with the BOD addendum.
2. Prepare construction drawings, specifications, cost estimates, construction schedule, supporting design calculations, list of required permits, and all other documents necessary for project construction.
  - a. Incorporate the UFC code in the design development and full design and documents.
  - b. A specification will be developed to be followed by the selected integrator to properly incorporate the Siemens controls.
3. Design Services:
  - a. Tank Structural Engineering:
    - i. Incorporate the UFC code into the tank structural engineering and design services.
  - b. Civil Engineering:
    - i. Incorporate the UFC code into the tank civil engineering and design services.
  - c. Instrumentation/Controls/Security Engineering
    - i. Discussions will be held with Siemens to extend the existing plant controls and incorporate the new tank and facilities. A new specification will be provided.

### C. Construction Bid Support Services

No change.

### D. Construction Support Services

No change.

## Attachment B – Santa Rita Reservoir Site

### A. Site List (11-sites)

- Construct 4-jumper lines with 8, 12 & 16-inch pipes and gate valves, the lines are approximately 50-ft length each and located in public ROW or utility easement areas.
- Abandon 1-PRV and replace with a pipe spool, demolish the vault and restore the vault area.
- Install a gate valve on a 2-inch line.
- Install replacement PRV's at 3-locations.
- Install 2-PRV's as part of the temporary work needed for the tank replacement.

### B. Preliminary Design

1. GWA has added the new Uniform Facilities Criteria Structural Engineering, 2013 code to the design criteria to be followed for the project and each tank and pump station site.
2. Perform site investigation to determine existing condition and system configuration, in accordance with existing contract scope terms.
3. Provide surveying services, consisting of property boundary and topographic field survey and preparation of topographical mapping. These services include preparation of topographical and boundary mapping of the 11-facility sites including existing facilities above ground within the project area and adjacent sites which may be impacted. The consultant shall make all necessary research for determination of land ownership.
4. Geotechnical investigations – not required.
5. Hazardous materials survey – not required.
6. Provide environmental services to determine any adverse impact of the project on cultural resources and to make recommendations regarding their historical properties. This shall include a technical report, which defines background research, field methodology, results of survey and mitigation recommendations. The archaeological party will conduct cultural resource inventory and evaluation of historic resources that might be affected by this project. This will require preparing and submitting an inventory survey plan, conducting inventory survey, and reporting to the Department of Parks and Recreation/Guam Historic Preservation Office and all other required agencies (which may include Department of Agriculture, Guam Environmental Protection Agency, U.S. Fish and Wildlife Services, and etc.) regarding the project and recommendations as to eligibility and effect from the undertaking. The technical report will include background research, field methodology, results of survey and mitigation recommendations.

# Exhibit B (7 of 31)

TG Engineers, PC

7. The TGE team will continue assisting with the adjacent CLTC property acquisition for the new tank site and access road.

## C. Design

1. Develop Basis of Design Report.
  - a. Incorporate the UFC code and added facilities and issue an addendum to the BOD with the project design submittals.
2. Prepare construction drawings, specifications, cost estimates, construction schedule, supporting design calculations, list of required permits, and all other documents necessary for project construction.
  - a. Incorporate the UFC code in the design development and full design and documents.
  - b. Include the new facilities at 11-locations with the scope of services.
3. Design Services:
  - a. Tank Structural Engineering:
    - i. Incorporate the UFC code into the tank structural engineering and design services.
    - ii. Provide a deep foundation on drilled or driven piers.
  - b. Civil Engineering:
    - i. Site work at each facility site shall include demolition plans, site layout plans, grading, drainage, erosion control measures, underground utility plans, utility profiles, vault plans and sections, details
  - c. Electrical Power/Lighting Engineering:

No change.
  - d. Instrumentation/Controls/Security Engineering:

No change.
- D. Construction Bid Support Services – No change.
- E. Construction Support Services - No change.

# Exhibit B (8 of 31)

TG Engineers, PC

## Attachment C – Santa Rosa Reservoir Site

### A. Site List (3-sites)

- Construct two (2) “jumper” lines with 8 & 6-inch pipes and gate valves. The lines are approximately 50-ft length each and located in public ROW or utility easement areas.
- A temporary access road will be constructed for the drill rig access to the soil boring sites. The Archaeological Survey completed recommended there should be Archaeological and UXO monitoring during the access road construction.
- A piped interconnection system will be constructed to connect the new GWA tank and facilities with the existing, adjacent Andersen AFB tank.

### B. Preliminary Design

1. GWA has added the new Uniform Facilities Criteria Structural Engineering, 2013 code to the design criteria to be followed for the project and each tank and pump station site.
2. Perform site investigation to determine existing condition and system configuration, in accordance with existing contract scope terms.
3. Provide surveying services, consisting of property boundary and topographic field survey and preparation of topographical mapping. These services include preparation of topographical and boundary mapping of the 2-facility sites including existing facilities above ground within the project area and adjacent sites which may be impacted. The consultant shall make all necessary research for determination of land ownership.
4. Geotechnical investigations – not required.
5. Hazardous materials survey – not required.
6. Provide environmental services during the temporary access road clearing and grubbing activities to determine any adverse impact of the activities on cultural resources and to make recommendations regarding their historical properties. This shall include a technical report, which defines background research, field methodology, results of monitoring and mitigation recommendations. This will require preparing and submitting an inventory survey plan, conducting inventory survey, and reporting to the Department of Parks and Recreation/Guam Historic Preservation Office and all other required agencies (which may include Department of Agriculture, Guam Environmental Protection Agency, U.S. Fish and Wildlife Services, and etc.) regarding the project and recommendations as to eligibility and effect from the undertaking.
7. Provide UXO monitoring during the temporary access road clearing and grubbing activities. The UXO scope will include a Work Plan, the onsite monitoring and a brief summary report.



# Exhibit B (9 of 31)

## TG Engineers, PC

8. Percolation tests will be completed at 2-locations to confirm rates to be used for drainage basin designs.
9. Include the new GWA-AAFB tank interconnection system (MEC-UXO surveys and reports are excluded).
10. The TGE team will continue assisting with the adjacent CLTC property acquisition for the new tank site and facilities.

## C. Design

1. Develop Basis of Design Report.
  - a. Incorporate the UFC code and added facilities and issue an addendum to the BOD with the project design submittals.
  - b. Include the GWA-AAFB tank interconnection system.
  - c. Provide multi-discipline design for the new pump house building.
2. Prepare construction drawings, specifications, cost estimates, construction schedule, supporting design calculations, list of required permits, and all other documents necessary for project construction.
  - a. Incorporate the UFC code in the design development and full design and documents.
  - b. Include the new facilities at 2-jumper line locations with the scope of services.
  - c. Include the new GWA-AAFB interconnection system.
  - d. Include the new pump house building.
  - e. Include the new concrete vaults for 1-each inflow/outflow meters.
3. Design Services:
  - a. Tank Structural Engineering:
    - i. Incorporate the UFC code into the tank structural engineering and design services.
  - b. Civil Engineering:
    - i. Site work at each facility site shall include demolition plans, site layout plans, grading, drainage, erosion control measures, underground utility plans, utility profiles, vault plans and sections, details.
    - ii. The design will include full civil engineering services for the GWA-AAFB interconnection system. Note a reasonable effort has been budgeted for coordination with AAFB Engineers regarding the inter-tie system, it is assumed the project will proceed on the schedule set at the beginning of the work.
  - c. Electrical Power/Lighting Engineering - No change.
  - d. Instrumentation/Controls/Security Engineering - No change.
- D. Construction Bid Support & Construction Support Services - No change.

# Exhibit B (10 of 31)

TG Engineers, PC

## Attachment D – Sinifa Reservoir Site

### A. Preliminary Design

1. GWA has added the new Uniform Facilities Criteria Structural Engineering, 2013 code to the design criteria to be followed for the project and each tank and pump station site.
2. Percolation tests will be completed at 2-locations to confirm rates to be used for drainage basin design
3. The TGE team will continue assisting with the private property acquisition for the new tank site.

#### 3.1 Work Completed

- a. Review the appraisal and discuss the value with GWA.
- b. Write and deliver the 1<sup>st</sup> offer.
- c. Coordinate the 1<sup>st</sup> offer review and response.
- d. Write and deliver the 2<sup>nd</sup> offer.
- e. Coordinate the 2<sup>nd</sup> offer review and acceptance.

#### 3.2 Work Pending

- a. Open escrow with a local title company and request GWA funds for the land purchase.
- b. Obtain and review the Preliminary Title Report, bring any title exceptions to the attention of GWA.
- c. Complete and close the transaction through escrow.
- d. Provide 1-copy of the closing documents to GWA

### B. Design

1. Develop Basis of Design Report.
  - a. Incorporate the UFC code and Issue an addendum to the BOD with the project design submittals.
2. Prepare construction drawings, specifications, cost estimates, construction schedule, supporting design calculations, list of required permits, and all other documents necessary for project construction.
  - a. Incorporate the UFC code in the design development and full design and documents.
3. Design Services:
  - a. Tank Structural Engineering:
    - i. Incorporate the UFC code into the tank structural engineering and design services.

# Exhibit B (11 of 31)

TG Engineers, PC

b. Civil Engineering:

l. Incorporate the UFC code into the tank civil engineering and design services.

C. Construction Bid Support Services

No change.

D. Construction Support Services

No change.

## Attachment E - Agfayan Pump Station Site

### A. Preliminary Design

1. Define design objective, design criteria, and methodology that shall be used to prepare the design. Identify all relevant codes, standards, environmental regulations, and all applicable local and federal laws that will be incorporated in the design.
2. Perform site investigation to determine existing condition and system configuration, consisting of the following:
  - a. Existing site conditions and facilities
  - b. Existing site operation
  - c. Proposed site improvement
  - d. Preliminary site layout
  - e. Research existing property map
  - f. If property acquisition is required, research properties adjacent to GWA property. Work will include initiating dialogue with land owner and land appraisal.
  - g. Demolition requirements
  - h. Grading requirements
  - i. Drainage requirements
  - j. Piping and valving requirements
  - k. Operational requirements
  - l. Fire flow requirements
  - m. Electrical power supply
  - n. Construction access
  - o. Construction sequencing
  - p. Future expandability
  - q. Laydown area for proposed and future reservoirs and building infrastructure
3. Provide surveying services, consisting of property boundary and topographic field survey and preparation of topographical mapping. These services include preparation of topographical and boundary mapping of the pump station site including existing facilities above ground within the project area and adjacent sites which may be impacted. The consultant shall make all necessary research for determination of land ownership.
4. Perform geotechnical investigations to assess the stability of the sub-grade and develop a soils report, including field exploration and laboratory tests, corrosion, and seismic investigations. The geotechnical investigations will assess the general conditions of the project site and provide design recommendations for the proposed pump station and ancillary facilities including the following:
  - a. Characterization of earth materials and ground water level
  - b. Development of seismic design criteria for the pump station building per updated codes
  - c. Determination of bearing pressure and settlement

# Exhibit (13 of 31)

## TG Engineers, PC

- d. Lateral earth pressures – static and seismic
  - e. Assessment of liquefaction potential
  - f. Foundation design of the proposed pump station building and ancillary structures
  - g. Earthwork requirements
5. Perform hazardous materials survey  
Not required.
  6. Provide environmental services to determine any adverse impact of the project on cultural resources and to make recommendations regarding their historical properties. This shall include a technical report, which defines background research, field methodology, results of survey and mitigation recommendations. The archaeological party will conduct cultural resource inventory and evaluation of historic resources that might be affected by this project. This will require preparing and submitting an inventory survey plan, conducting inventory survey, and reporting to the Department of Parks and Recreation/Guam Historic Preservation Office and all other required agencies (which may include Department of Agriculture, Guam Environmental Protection Agency, U.S. Fish and Wildlife Services, and etc.) regarding the project and recommendations as to eligibility and effect from the undertaking. The technical report will include background research, field methodology, results of survey and mitigation recommendations.
  7. Percolation tests will be completed at 2-locations to confirm rates to be used for drainage basin designs.

## B. Design

1. Develop Basis of Design Report.

The Basis of Design Report at the minimum shall address the following:

- a. Piping design criteria including size, alignments, tie-in connections or discharge outlet for pump station inlet/outlet connecting to existing pipeline.
- b. Geotechnical report and recommendations
- c. Structural characteristics (Seismic Zone 4)
- d. Design requirements for valving, electrical, instrumentation and control for on-site monitoring electrical panel onsite with provisions for connection to a future SCADA system, which may include various setting conditions, intrusion alarms, security camera footage, automatic valves, limit switches, pressure gauges, flow meters, and transmitters
- e. Hydraulic system analysis assumptions
- f. Normal and emergency flow requirements
- g. Site operational flexibility (the site will require a bypass system should the pump station need to be taken down for inspection, maintenance, etc.)
- h. Instrumentation and controls
- i. Site security requirements
- j. Proposed locations for system control valves (PRV, PRSV, etc.)

# Exhibit B (14 of 31)

TG Engineers, PC

- k. Booster station building footprint
  - l. Cost estimate will be a Class 4 cost estimate in accordance with the AACE International Cost Estimate Classification System. All cost will be in current dollars and escalated to the estimated midpoint of construction
  - m. Proposed construction schedule with major work items
  - n. Sketches, as needed, to illustrate the proposed work.
2. Perform system hydraulic analysis. The analysis shall include evaluation of the required normal flow and pressure, and fire flow capacity for the service zone, and system control valve locations. Design consultant shall utilize EPANET or other modeling software (GWA approval is required). The consultant shall use the Water System Hydraulic Analysis Report, May 3, 2013, prepared by Brown and Caldwell as the basis point.
  3. Prepare construction drawings, specifications, cost estimates, construction schedule, supporting design calculations, list of required permits, and all other documents necessary for project construction.
    - a. The design plans will include all necessary piping, valving, fittings, and appurtenances to connect to the existing water system as indicated in the Basis of Design Report. The plan will also include necessary erosion control measures such as erosion control seeding, silt fencing, protection of stockpiled materials, and other necessary measures to mitigate the impact of erosion and sedimentation.
    - b. Based on the Basis of Design report approved by GWA, the design consultant will prepare and submit the following:
      1. Multidiscipline plans to the 60%, 90%, and 100% completion levels. (60% will consist of an Over-the-Shoulder review with GWA.)
      2. Specifications at 60%, 90%, and 100% completion levels, which will include front end documents and technical specifications applicable to the Indicated completion levels. The design consultant shall propose any changes to GWA's front end documents for Legal Counsel review.
      3. A Basis of Estimate, Estimate trend Log, and Estimate Trent Report shall be prepared.
      4. Construction cost estimate update at 60% Completion level. This estimate will be a Class 3 estimate in accordance with the AACE International Cost Estimate Classification System. All costs will be in current dollars and escalated to the estimated midpoint of construction.
      5. Final construction cost estimate based on quantity takeoffs and the requirements of the 100% design plans and specifications. This estimate will be a Class 2 estimate in accordance with the AACE International Cost Estimate Classification System. All costs will be in current dollars and escalated to the estimated midpoint of construction.

# Exhibit B (15 of 31)

TG Engineers, PC

6. The design consultant shall coordinate with the relevant agencies such as Guam Environmental Protection Agency, Department of Public Works, and other relevant agencies at the 30%, 60%, 90%, and 100% submittals. This includes submitting design documents (full size plans and specifications at each phase) and maintaining communication throughout the duration of the project and incorporating any relevant regulation requirements in the design.
7. Deliverables to GWA will be provided in accordance with the following:
  - a. 30% phase
    1. 5 hard copies of the Basis of Design documents
    2. Digital copy of the Basis of Design
  - b. 60% phase
    1. 5 hard copies of the 60% design documents (plan submittal shall consist of 2 sets of 36" x 24" sized drawings and 3 set of 11" x 17" sized drawings)
    2. Digital copy of the 60% design documents
  - c. 90% phase
    1. 5 hard copies of the 90% design documents (plan submittal shall consist of 2 sets of 36" x 24" sized drawings and 3 set of 11" x 17" sized drawings)
    2. Digital copy of the 90% design documents
  - d. Final phase
    1. 5 hard copies of the final design documents (plan submittal shall consist of 2 sets of 36" x 24" sized drawings and 3 sets of 11" x 17" sized drawings)
    2. Digital copy of the final design documents
4. Design Services:
  - a. Civil Engineering:
    - i. Site work at the pump station site shall include demolition plans, site layout plans, grading, paving, fencing, drainage, erosion control measures, retaining walls, underground utility plans, utility profiles, vault plans and sections, details. Demolition plans will be provided as required.
    - ii. Booster Pump Station work: Provide a booster pump station, including fire pump, together with a standby generator and controls.
  - b. Electrical Power/Lighting Engineering:
    - i. Electrical standard details, one line diagrams, electrical site plans, lighting plans and details
  - c. Instrumentation/Controls/Security Engineering:
    - i. Provide instrumentation/Controls/Security system for the pump station building and site

# Exhibit B (16 of 31)

TG Engineers, PC

- d. Architectural Services:
  - i. Provide pump and generator building design.
- e. Construction Bid Support Services
- f. Construction Support Services

## A. Preliminary Design

1. GWA has added the new Uniform Facilities Criteria Structural Engineering, 2013 code to the design criteria to be followed for the project and each tank and pump station site.
2. Percolation tests will be completed at 2-locations to confirm rates to be used for drainage basin designs.
3. The TGE team will continue assisting with the private property acquisition for the new tank site.
  - a. Review the appraisal and discuss the value with GWA.
  - b. Write and deliver the 1<sup>st</sup> offer.
  - c. Coordinate the 1<sup>st</sup> offer review and response.
  - d. Write and deliver the 2<sup>nd</sup> offer.
  - e. Coordinate the 2<sup>nd</sup> offer review and acceptance.
  - f. Open escrow with a local title company and request GWA funds for the land purchase.
  - g. Obtain and review the Preliminary Title Report, bring any title exceptions to the attention of GWA.
  - h. Complete and close the transaction through escrow.
  - i. Provide 1-copy of the closing documents to GWA

## B. Design

2. Develop Basis of Design Report.
  - a. Incorporate the UFC code and issue an addendum to the BOD with the project design submittals.
3. Prepare construction drawings, specifications, cost estimates, construction schedule, supporting design calculations, list of required permits, and all other documents necessary for project construction.
  - a. Incorporate the UFC code in the design development and full design and documents.
4. Design Services:
  - a. Pump Station Structural Engineering:



# Exhibit B (17 of 31)

TG Engineers, PC

- i. Incorporate the UFC code into the tank structural engineering and design services.
- C. Construction Bid Support Services - No change.
- D. Construction Support Services - No change.

TG Engineers, PC

## Attachment F – Inarajan Pump Station Site

### A. Site List (1-site)

- Install a PRV's at 1-location.

### B. Preliminary Design

1. GWA has added the new Uniform Facilities Criteria Structural Engineering, 2013 code to the design criteria to be followed for the project and each tank and pump station site.
2. Perform site investigation to determine existing condition and system configuration, in accordance with existing contract scope terms.
3. Provide surveying services, consisting of property boundary and topographic field survey and preparation of topographical mapping. These services include preparation of topographical and boundary mapping of the 1-facility site including existing facilities above ground within the project area and adjacent sites which may be impacted. The consultant shall make all necessary research for determination of land ownership.
4. Geotechnical investigations – not required.
5. Hazardous materials survey – not required.
6. Provide environmental services to determine any adverse impact of the project on cultural resources and to make recommendations regarding their historical properties. This shall include a technical report, which defines background research, field methodology, results of survey and mitigation recommendations. The archaeological party will conduct cultural resource inventory and evaluation of historic resources that might be affected by this project. This will require preparing and submitting an inventory survey plan, conducting inventory survey, and reporting to the Department of Parks and Recreation/Guam Historic Preservation Office and all other required agencies (which may include Department of Agriculture, Guam Environmental Protection Agency, U.S. Fish and Wildlife Services, and etc.) regarding the project and recommendations as to eligibility and effect from the undertaking. The technical report will include background research, field methodology, results of survey and mitigation recommendations.

### C. Design

1. Develop Basis of Design Report.
  - a. Incorporate the UFC code and added facilities and issue an addendum to the BOD with the project design submittals.

# Exhibit B (19 of 31)

## TG Engineers, PC

2. Prepare construction drawings, specifications, cost estimates, construction schedule, supporting design calculations, list of required permits, and all other documents necessary for project construction.
  - a. Incorporate the UFC code in the design development and full design and documents.
  - b. Include the new facility at 1-location with the scope of services.
3. Design Services:
  - a. Civil Engineering:
    - i. Site work at the PRV site shall include demolition plans, site layout plans, grading, drainage, erosion control measures, underground utility plans, utility profiles, vault plans and sections, details
  - b. Electrical Power/Lighting Engineering:

No change.
  - c. Instrumentation/Controls/Security Engineering:

No change.
- D. Construction Bid Support Services – No change.
- E. Construction Support Services - No change.

1.0 UGUM RESERVOIR		TOTAL
Engineering Services	\$	18,545.00
Subconsultants	\$	23,720.00
Direct Expenses	\$	-
<b>TOTAL - UGUM RESERVOIR</b>		<b>\$ 42,265.00</b>

2.0 SANTA RITA RESERVOIR		TOTAL
Engineering Services	\$	68,755.00
Survey Services	\$	19,390.00
Subconsultants	\$	74,135.00
Direct Expenses	\$	313.00
<b>TOTAL - SANTA RITA RESERVOIR</b>		<b>\$ 162,593.00</b>

3.0 SANTA ROSA RESERVOIR		TOTAL
Engineering Services	\$	67,330.00
Survey Services	\$	23,940.00
Subconsultants	\$	51,490.00
Direct Expenses	\$	391.00
<b>TOTAL - SANTA ROSA RESERVOIR</b>		<b>\$ 143,151.00</b>

4.0 SINIFA RESERVOIR		TOTAL
Engineering Services	\$	5,075.00
Subconsultants	\$	11,688.00
Direct Expenses	\$	-
<b>TOTAL - SINIFA RESERVOIR</b>		<b>\$ 16,763.00</b>

5.0 AGFAYAN BOOSTER PUMP STATION		TOTAL
A Preliminary Design	\$	59,925.60
B Design - 60% Submittal	\$	30,791.20
C Design - 90% Submittal	\$	22,289.30
D Design - Final Submittal	\$	14,913.70
E Construction Bid Support Services	\$	4,198.70
F Construction Support Services	\$	6,220.00
<b>TOTAL - AGFAYAN PUMP STATION</b>		<b>\$ 138,338.50</b>

6.0 INARAJAN BOOSTER PUMP STATION		TOTAL
<b>TOTAL - INARAJAN PUMP STATION</b>		<b>\$0.00</b>

<b>TOTAL FEE</b>	<b>\$ 503,110.50</b>
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<b>GRAND TOTAL FEE</b>	<b>\$ 503,110.50</b>
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DESIGN TASK	Principal	Project Mgr	Sr Civil Engr II	Sr Civil Engr I	Stf Civil Engr	Jr Civil Engr	CAD	Clerical	TOTAL COST
<b>ENGINEERING SERVICES</b>									
<b>A. Preliminary Design</b>									
1. Land Acquisition - Completed	4.0	2.0	6.0	30.0					30.0
2. Land Acquisition - Pending									
<b>B. Design</b>									
1. Modify Basis of Design Report		1.0		2.0	10.0				
2. Prepare construction drawings, specifications, cost estimates, construction schedule, supporting design calculations, list of required permits, etc.		1.0		5.0	5.0				
3. Design Services									
a. Tank Structural Engineering		1.0		5.0					
b. Civil Engineering		1.0		5.0	5.0				
c. Controls Assist		5.0	10.0	10.0	20.0				
<b>C. Construction Bld Support Services (None)</b>									
<b>D. Construction Support Services (None)</b>									
<b>Subtotal Hours</b>	4.0	11.0	16.0	57.0	40.0	0.0	0.0		30.0
<b>Hourly Rate</b>	\$175.00	\$170.00	\$165.00	\$135.00	\$105.00	\$85.00	\$105.00	\$48.00	
<b>Subtotal Direct Labor</b>	\$700.00	\$1,870.00	\$2,640.00	\$7,695.00	\$4,200.00	\$0.00	\$0.00	\$1,440.00	<b>\$18,545.00</b>
<b>SUBCONSULTANTS</b>									
<b>Subconsultant</b>	<b>Total Fee</b>		<b>% This Task</b>		<b>Task Fee</b>				
1.0 RBF Consulting (Reservoir Design/Structural/Piping/Hydraulics/Modeling)	\$20,700.00		100%		\$20,700.00				
2.0 Wixon & Associates, LLC (Electrical)	\$0.00		0%		\$0.00				
3.0 Southeastern Archaeological Research, Inc. (Archaeological)	\$0.00		0%		\$0.00				
4.0 Geo-Engineering & Testing, Inc. (Geotechnical)	\$0.00		0%		\$0.00				
5.0 PCR Environmental, LLC (Environmental)	\$0.00		0%		\$0.00				
6.0 Rider Levett Bucknall (Cost Estimating)	\$0.00		0%		\$0.00				
7.0 Cornerstone Valuation Guam, Inc. (Appraisal)	\$0.00		0%		\$0.00				
<b>Subtotal - Subconsultants</b>					\$20,700.00				
<b>TGE Sub Admin Fee (10%)</b>					\$2,070.00				
<b>GRT (4.17%)</b>					\$950.00				
							<b>\$23,720.00</b>		
<b>DIRECT EXPENSES</b>									
1.0 Reproduction	<b>Sheets</b>	<b>Sets</b>	<b>Total Pages</b>	<b>Unit Cost</b>	<b>Subtotal</b>				
Drawings (Full Size - 24x36)			0	\$1.00	\$0.00				
Drawings (Tabloid Size - 11x17)			0	\$0.50	\$0.00				
Documents (Letter Size - 8.5x11)			0	\$0.15	\$0.00				
CD			0	\$1.00	\$0.00				
<b>Subtotal - Reproduction</b>					\$0.00				
2.0 Vehicles/Fuel	<b>Days</b>	<b>Crews</b>	<b>Rate</b>	<b>Subtotal</b>					
Survey Field Crews			\$25.00	\$0.00					
3.0 Miscellaneous	0	0	\$0.00	\$0.00					
<b>Subtotal - Task A Direct Expenses</b>					\$0.00				
<b>GRT (4.17%)</b>					\$0.00				
							<b>\$0.00</b>		
<b>TOTAL - UGUM RESERVOIR</b>								<b>\$42,265.00</b>	

DESIGN TASK	Principal	Project Mgr	Sr Civil Engr II	Sr Civil Engr I	Stf Civil Engr	Jr Civil Engr	CAD	Clerical	TOTAL COST
<b>ENGINEERING SERVICES</b>									
<b>A/B. Site List/Preliminary Design</b>									
1. Construct 4-jumper lines with 8, 12, and 16-inch pipes and gate valves		1.0		5.0	20.0				
2. Abandon 1-PRV and replace with a pipe spool, demolish the vault and restore the vault area					1.0	5.0			
3. Install a gate valve on a 2-inch line				1.0	5.0				
4. Install replacement PRVs at 3-locations		1.0		5.0	15.0				
5. Install 2-PRVs as part of the temporary work needed for the tank replacement				5.0	10.0				
6. Perform site investigation to determine existing condition and system configuration		5.0		25.0	25.0				
7. Geotechnical investigations (Not required)									
8. Hazardous materials survey (Not required)									
9. Environmental Services		5.0							
10. Land Acquisition - Completed									
11. Land Acquisition - Pending									
<b>C. Design</b>									
1. Develop Basis of Design Report		5.0		15.0	30.0				
2. Prepare construction drawings, specifications, cost estimates, construction schedule, supporting design calculations, list of required permits, etc.		2.0		60.0	150.0		60.0		
<b>3. Design Services</b>									
a. Tank Structural Engineering		1.0		5.0					
a.1 Tank Pile Foundation		2.0		10.0	5.0				
b. Civil Engineering		2.0		20.0	60.0				
c. Electrical Power/Lighting Engineering (Excluded)									
d. Instrumentation/Controls/Security Engineering (Excluded)									
e. Interior Access Road		2.0		8.0	12.0		10.0		
<b>C. Construction Bld Support Services (None)</b>									
<b>D. Construction Support Services (None)</b>									
<b>Subtotal Hours</b>	0.0	26.0	0.0	160.0	337.0	0.0	70.0	0.0	
<b>Hourly Rate</b>	\$175.00	\$170.00	\$165.00	\$135.00	\$105.00	\$85.00	\$105.00	\$48.00	
<b>Subtotal Direct Labor</b>	\$0.00	\$4,420.00	\$0.00	\$21,600.00	\$35,385.00	\$0.00	\$7,350.00	\$0.00	\$68,755.00
<b>SURVEY SERVICES</b>									
<b>1.0 Site Surveys</b>									
Property Research		10.0							
Control Survey				16.0					
Boundary Survey				40.0	20.0				
Topographic Survey & Map				40.0	40.0				
<b>2.0 Land Acquisition</b>									
<b>Subtotal Hours</b>	0.0	10.0	96.0	60.0	0.0	0.0	0.0	0.0	
<b>Hourly Rate</b>	\$145.00	\$85.00	\$140.00	\$85.00	\$0.00	\$0.00	\$0.00	\$0.00	
<b>Subtotal Direct Labor</b>	\$0.00	\$850.00	\$13,440.00	\$5,100.00	\$0.00	\$0.00	\$0.00	\$0.00	\$19,390.00
<b>SUBCONSULTANTS</b>									
<b>Subconsultant</b>	<b>Total Fee</b>	<b>% This Task</b>	<b>Task Fee</b>						
1.0 RBF Consulting (Reservoir Design/Structural/Piping/Hydraulics/Modeling)	\$52,197.00	100%	\$52,197.00						
2.0 Wixon & Associates, LLC (Electrical)	\$0.00	0%	\$0.00						
3.0 Southeastern Archaeological Research, Inc. (Archaeological)	\$7,500.00	100%	\$7,500.00						
4.0 Geo-Engineering & Testing, Inc. (Geotechnical)	\$0.00	0%	\$0.00						
5.0 PCR Environmental, LLC (Environmental)	\$5,000.00	100%	\$5,000.00						
6.0 Rider Levett Bucknall (Cost Estimating)	\$0.00	0%	\$0.00						
7.0 Cornerstone Valuation Guam, Inc. (Appraisal)	\$0.00	0%	\$0.00						
<b>Subtotal - Subconsultants</b>			\$64,697.00						
<b>TGE Sub Admin Fee (10%)</b>			\$6,470.00						
<b>GRT (4.17%)</b>			\$2,968.00						
				\$74,135.00					
<b>DIRECT EXPENSES</b>									
<b>1.0 Reproduction</b>									
Drawings (Full Size - 24x36)	Sheets	Sets	Total Pages	Unit Cost	Subtotal				
Drawings (Tabloid Size - 11x17)				\$1.00	\$0.00				
Documents (Letter Size - 8.5x11)				\$0.50	\$0.00				
CD				\$0.15	\$0.00				
				\$1.00	\$0.00				
<b>Subtotal - Reproduction</b>					\$0.00				
<b>2.0 Vehicles/Fuel</b>									
Survey Field Crews	Days	Crews	Rate	Subtotal					
	12	1	\$25.00	\$300.00					
<b>3.0 Miscellaneous</b>									
<b>Subtotal - Task A Direct Expenses</b>				\$300.00					
<b>GRT (4.17%)</b>				\$13.00					
					\$313.00				

TOTAL - SANTA RITA RESERVOIR	<b>\$162,593.00</b>
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DESIGN TASK	Principal	Project Mgr	Sr Civil Engr II	Sr Civil Engr I	Sr Civil Engr	Jr Civil Engr	CAD	Clerical	TOTAL COST
<b>ENGINEERING SERVICES</b>									
<b>A./B. Site List/Preliminary Design</b>									
1. Construct 2-jumper lines with 8 & 6-inch pipes and gate valves		1.0		5.0	10.0				
2. Temporary access road				2.0	5.0				
3. Perform site investigation to determine existing condition and system configuration				10.0	10.0				
4. Geotechnical investigations (Not required)									
5. Hazardous materials survey (Not required)									
6. Environmental services		2.0							
7. UXO monitoring		4.0							
8. AAFB Tank Intertie		5.0	10.0	20.0			20.0		
9. Land Acquisition - Completed	3.0	4.0	4.0	15.0					
10. Land Acquisition - Pending	2.0	1.0	1.0	5.0					
<b>C. Design</b>									
1. Develop Basis of Design Report		1.0		5.0	10.0				
2. Prepare construction drawings, specifications, cost estimates, construction schedule, supporting design calculations, list of required permits, etc.		2.0		20.0	40.0		40.0		
3. Design Services									
a. Tank Structural Engineering		1.0		5.0					
b. Civil Engineering		2.0		10.0	20.0				
c. Electrical Power/Lighting Engineering (Excluded)									
d. Instrumentation/Controls/Security Engineering (Excluded)									
e. AAFB Tank Intertie		20.0	40.0	60.0	60.0		60.0		
<b>C. Construction Bid Support Services (None)</b>									
<b>D. Construction Support Services (None)</b>									
<b>Subtotal Hours</b>	5.0	43.0	55.0	157.0	155.0	0.0	120.0	0.0	
<b>Hourly Rate</b>	\$175.00	\$170.00	\$165.00	\$135.00	\$105.00	\$85.00	\$105.00	\$48.00	
<b>Subtotal Direct Labor</b>	\$875.00	\$7,310.00	\$9,075.00	\$21,195.00	\$16,275.00	\$0.00	\$12,600.00	\$0.00	\$67,330.00

DESIGN TASK	PLS	Survey Tech	Field Crew	CAD	TOTAL COST
<b>SURVEY SERVICES</b>					
1.0 Site Surveys					
Property Research		5.0			
Control Survey			16.0		
Boundary Survey			24.0	10.0	
Topographic Survey & Map			16.0	20.0	
AAFB Tank Intertie	5.0	20.0	40.0	60.0	
2.0 Land Acquisition					
<b>Subtotal Hours</b>	5.0	25.0	96.0	90.0	0.0
<b>Hourly Rate</b>	\$145.00	\$85.00	\$140.00	\$85.00	\$0.00
<b>Subtotal Direct Labor</b>	\$725.00	\$2,125.00	\$13,440.00	\$7,650.00	\$0.00

<b>SUBCONSULTANTS</b>				TOTAL COST
Subconsultant	Total Fee	% This Task	Task Fee	
1.0 RBF Consulting (Reservoir Design/Structural/Piping/Hydraulics/Modeling)	\$25,185.00	100%	\$25,185.00	
2.0 Wixon & Associates, LLC (Electrical)	\$10,000.00	0%	\$0.00	
3.0 Southeastern Archaeological Research, Inc. (Archaeological)	\$15,000.00	100%	\$15,000.00	
4.0 Geo-Engineering & Testing, Inc. (Geotechnical)	\$0.00	0%	\$0.00	
5.0 PCR Environmental, LLC (Environmental)	\$1,500.00	100%	\$1,500.00	
6.0 Rider Levett Bucknall (Cost Estimating)		0%	\$0.00	
7.0 Cornerstone Valuation Guam, Inc. (Appraisal)		0%	\$0.00	
8.0 Unitek Environmental Guam (UXO Monitoring)	\$3,250.00	100%	\$3,250.00	
<b>Subtotal - Subconsultants</b>			\$44,935.00	
<b>TGE Sub Admin Fee (10%)</b>			\$4,494.00	
<b>GRT (4.17%)</b>			\$2,061.00	\$51,490.00

<b>DIRECT EXPENSES</b>						TOTAL COST
1.0 Reproduction	Sheets	Sets	Total Pages	Unit Cost	Subtotal	
Drawings (Full Size - 24x36)				\$1.00	\$0.00	
Drawings (Tabloid Size - 11x17)				\$0.50	\$0.00	
Documents (Letter Size - 8.5x11)				\$0.15	\$0.00	
CD				\$1.00	\$0.00	
<b>Subtotal - Reproduction</b>					\$0.00	
2.0 Vehicles/Fuel	Days	Crews	Rate	Subtotal		
Survey Field Crews	15	1	\$25.00	\$375.00		
3.0 Miscellaneous	0	0	\$0.00	\$0.00		
<b>Subtotal - Task A Direct Expenses</b>				\$375.00		
<b>GRT (4.17%)</b>				\$16.00		\$391.00



TOTAL - SANTA ROSA RESERVOIR	<b>\$143,151.00</b>
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# Exhibit B (26 of 31)

Gum Waterworks Authority  
Design of Northern and Southern Guam Reservoirs

## Fee Proposal Spreadsheet SINIFA RESERVOIR

8/11/2016  
Page 1 of 1

DESIGN TASK	Principal	Project Mgr	Sr Civil Engr II	Sr Civil Engr I	Stf Civil Engr	Jr Civil Engr	CAD	Clerical	TOTAL COST
<b>ENGINEERING SERVICES</b>									
<b>A. Preliminary Design</b>									
1. Land Acquisition - Completed									
2. Land Acquisition - Pending									
<b>B. Design</b>									
1. Develop Basis of Design Report		1.0		2.0	10.0				
2. Prepare const drawings, specifications, cost estimates, construction schedule, supporting design calculations, list of required permits, etc.		1.0		5.0	5.0				
<b>3. Design Services</b>									
a. Tank Structural Engineering		1.0		5.0					
b. Civil Engineering		1.0		5.0	5.0				
<b>C. Construction Bid Support Services (None)</b>									
<b>D. Construction Support Services (None)</b>									
<b>Subtotal Hours</b>		0.0	4.0	0.0	17.0	20.0	0.0	0.0	0.0
<b>Hourly Rate</b>	\$175.00	\$170.00	\$165.00	\$135.00	\$105.00	\$85.00	\$105.00	\$48.00	
<b>Subtotal Direct Labor</b>	\$0.00	\$680.00	\$0.00	\$2,295.00	\$2,100.00	\$0.00	\$0.00	\$0.00	\$5,075.00
<b>SUBCONSULTANTS</b>									
<b>Subconsultant</b>	<b>Total Fee</b>		<b>% This Task</b>		<b>Task Fee</b>				
1.0 RBF Consulting (Reservoir Design/Structural/Piping/Hydraulics/Modeling)	\$10,200.00		100%		\$10,200.00				
2.0 Wixon & Associates, LLC (Electrical)	\$0.00		0%		\$0.00				
3.0 Southeastern Archaeological Research, Inc. (Archaeological)	\$0.00		0%		\$0.00				
4.0 Geo-Engineering & Testing, Inc. (Geotechnical)	\$0.00		0%		\$0.00				
5.0 PCR Environmental, LLC (Environmental)	\$0.00		0%		\$0.00				
6.0 Rider Levett Bucknall (Cost Estimating)	\$0.00		0%		\$0.00				
7.0 Cornerstone Valuation Guam, Inc. (Appraisal)	\$0.00		0%		\$0.00				
<b>Subtotal - Subconsultants</b>					\$10,200.00				
<b>TGE Sub Admin Fee (10%)</b>					\$1,020.00				
<b>GRT (4.17%)</b>					\$468.00				
							<b>\$11,688.00</b>		
<b>DIRECT EXPENSES</b>									
1.0 Reproduction	<b>Sheets</b>	<b>Sets</b>	<b>Total Pages</b>	<b>Unit Cost</b>	<b>Subtotal</b>				
Drawings (Full Size - 24x36)				\$1.00	\$0.00				
Drawings (Tabloid Size - 11x17)				\$0.50	\$0.00				
Documents (Letter Size - 8.5x11)				\$0.15	\$0.00				
CD				\$1.00	\$0.00				
<b>Subtotal - Reproduction</b>					\$0.00				
2.0 Vehicles/Fuel	<b>Days</b>	<b>Crews</b>	<b>Rate</b>	<b>Subtotal</b>					
Survey Field Crews			\$25.00	\$0.00					
3.0 Miscellaneous	0	0	\$0.00	\$0.00					
<b>Subtotal - Task A Direct Expenses</b>					\$0.00				
<b>GRT (4.17%)</b>					\$0.00				
							<b>\$0.00</b>		

<b>TOTAL - SINIFA RESERVOIR</b>	<b>\$16,763.00</b>
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# Exhibit B (27 of 31)

Guam Waterworks Authority  
Design of Northern and Southern Guam Reservoirs

## Fee Proposal Spreadsheet AGFAYAN BOOSTER PUMP STATION

8/11/2016  
Page 1 of 5

DESIGN TASK	Principal	Project Mgr	Sr Civil Engr II	Sr Civil Engr I	SII Civil Engr	Jr Civil Engr	CAD	Clerical	TOTAL COST	
<b>TASK A - BASIS OF DESIGN</b>										
1.0	Gather and review background data									
2.0	Review Court Documents and Schedules									
3.0	Kick Off Meeting									
4.0	Site Visit/Site Analysis/PS site selection				2	10.0	2.0			
5.0	Meet with GWA Operations									
6.0	Meetings with GEPA/DPW/DPR / Provide Meeting Minutes			4.0		4.0				
7.0	Initial Contact with Property Owners									
8.0	Civil Plans (5 sheets)	4.0		5.0		5.0	10.0			
9.0	Preliminary Hydrology Calc's			2.0		2.0				
10.0	Preliminary Hydraulic Analysis			2.0		2.0				
11.0	Pump Station									
12.0	System Control Valves			1.0	2.0					
13.0	Pump Station & Generator Bldg			2.0	6.0	2.0	4.0			
14.0	Workshop 1 for Consultant Teams									
15.0	Review D110 Type I, II, III Tank Evaluation									
16.0	Coordinate Preliminary Investigations (survey, geotech, environ, appraisal, etc)				4.0	2.0				
17.0	Coordinate/Review Hydraulic and CFD Modeling				2.0	2.0				
18.0	Coordinate Multi-Discipline Designs	2.0		3.0		4.0				
19.0	Coordinate Construction Cost Estimate			1.0		2.0				
20.0	Coordinate Construction Schedule					4.0				
21.0	QA/QC of Documents	1.0	1.0							
22.0	Prepare Basis of Design				5.0	5.0	4.0	4.0		
23.0	Submit Basis of Design		1.0			4.0	4.0	4.0		
24.0	Land Acquisition		2.0		5				5.0	
	<b>Subtotal Hours</b>	1.0	10.0	3.0	43.0	0.0	48.0	24.0	13.0	
	<b>Hourly Rate</b>	\$175.00	\$170.00	\$165.00	\$135.00	\$105.00	\$85.00	\$105.00	\$48.00	
	<b>Subtotal Direct Labor</b>	\$175.00	\$1,700.00	\$495.00	\$5,805.00	\$0.00	\$4,080.00	\$2,520.00	\$624.00	
<b>TOTAL COST: \$15,399.00</b>										
DESIGN TASK	PLS	Survey Tech	Field Crew	CAD						TOTAL COST
<b>TASK A - OTHER TASKS</b>										
1.0	Site Surveys									
	Property Research		4.0							
	Control Survey	1.0	2.0	8.0						
	Boundary Survey	1.0	1.0	16.0	2.0					
	Topographic Survey & Map	1.0		8.0	24.0					
2.0	Land Acquisition									
	Property Research	1.0	8.0							
	Landowner Discussion		2.0							
	Boundary Survey & Map	1.0	5.0	16.0	8.0					
	<b>Subtotal Hours</b>	5.0	22.0	48.0	34.0	0.0	0.0	0.0	0.0	
	<b>Hourly Rate</b>	\$145.00	\$85.00	\$140.00	\$85.00	\$0.00	\$0.00	\$0.00	\$0.00	
	<b>Subtotal Direct Labor</b>	\$725.00	\$1,870.00	\$6,720.00	\$2,890.00	\$0.00	\$0.00	\$0.00	\$0.00	\$12,205.00
<b>TASK A - SUBCONSULTANTS</b>										
	<b>Subconsultant</b>	<b>Total Fee</b>		<b>% This Task</b>		<b>Task Fee</b>				
1.0	RBF Consulting (Reservoir Design/Structural/Piping/Hydraulics/Modeling)	\$21,300.00		35%		\$7,455.00				
2.0	Wixon & Associates, LLC (Electrical)	\$7,500.00		30%		\$2,250.00				
3.0	Southeastern Archaeological Research, Inc. (Archaeological)	\$10,000.00		80%		\$8,000.00				
4.0	Geo-Engineering & Testing, Inc. (Geotechnical)	\$5,500.00		80%		\$4,400.00				
5.0	PCR Environmental, LLC (Environmental)	\$2,500.00		60%		\$1,500.00				
6.0	Rider Levett Bucknall (Cost Estimating)	\$3,084.00		15%		\$462.60				
7.0	Cornerstone Valuation Guam, Inc. (Appraisal)	\$4,500.00		75%		\$3,375.00				
	<b>Subtotal - Subconsultants</b>					\$27,442.60				
	<b>TGE Sub Admin Fee (10%)</b>					\$2,744.00				
	<b>GRT (4.17%)</b>					\$1,259.00				
	<b>Subtotal - Subconsultants</b>					\$31,445.60				
<b>TASK A - DIRECT EXPENSES</b>										
1.0	Reproduction	<b>Sheets</b>	<b>Sets</b>	<b>Total Pages</b>	<b>Unit Cost</b>	<b>Subtotal</b>				
	Drawings (Full Size - 24x36)		0		\$1.00	\$0.00				
	Drawings (Tabloid Size - 11x17)	6	5	30	\$0.50	\$15.00				
	Documents (Letter Size - 8.5x11)	300	5	1500	\$0.15	\$225.00				
	CD		1		\$1.00	\$1.00				
	<b>Subtotal - Reproduction</b>					\$241.00				
2.0	Vehicles/Fuel	<b>Days</b>	<b>Crews</b>	<b>Rate</b>	<b>Subtotal</b>					
	Survey Field Crews	12	2	\$25.00	\$600.00					
3.0	Miscellaneous	0	0	\$0.00	\$0.00					
	<b>Subtotal - Task A Direct Expenses</b>					\$841.00				
	<b>GRT (4.17%)</b>					\$35.00				
	<b>Subtotal - Task A Direct Expenses</b>					\$876.00				
<b>TASK A TOTAL FEE</b>							<b>\$59,925.60</b>			

DESIGN TASK	Principal	Project Mgr	Sr Civil Engr II	Sr Civil Engr I	Sr Civil Engr	Jr Civil Engr	CAD	Clerical	TOTAL COST	
<b>TASK B - DESIGN - 60% SUBMITTAL</b>										
1.0	BoD - Prepare Response to Comments/Review Meeting				2					
2.0	Site Visit & Site Analysis				4.0		4.0			
3.0	Meetings with GEPA/DPW/DPR / Provide Meeting Minutes				4.0		4.0			
4.0	Civil Plans (5 sheets)			1.0	5.0		5.0	10.0		
5.0	Pump Station & Generator Bldg			1.0	2.0		5.0	5.0		
6.0	Hydrology Calc's						2.0			
7.0	Engineering Design Tasks			2.0	5.0		5.0			
8.0	Engineering Calculations			2.0	5.0		5.0			
9.0	System Control Valves			2.0	2.0			2.0		
10.0	Coordinate Construction Cost Estimate / Review Supporting Logs & Reports						4.0			
11.0	Construction Schedule						2.0			
12.0	Specifications			2.0			5.0			
13.0	Workshop 2 for Consultant Teams									
14.0	Coordination of Multi-Discipline Designs		4.0		4.0		4.0			
15.0	Hydraulic & CFD Modeling Review and Coordination		1.0		2.0		2.0			
16.0	QA/QC of Design Documents	2.0	1.0							
17.0	Prepare Submittal Documents		2.0	2.0	4.0		5.0	5.0	5.0	
	<b>Subtotal Hours</b>	2.0	8.0	12.0	39.0	0.0	52.0	22.0	5.0	
	<b>Hourly Rate</b>	\$175.00	\$170.00	\$165.00	\$135.00	\$105.00	\$85.00	\$105.00	\$48.00	
	<b>Subtotal Direct Labor</b>	\$350.00	\$1,360.00	\$1,980.00	\$5,265.00	\$0.00	\$4,420.00	\$2,310.00	\$240.00	
<b>TOTAL COST: \$15,925.00</b>										
DESIGN TASK	PLS	Survey Tech	Field Crew	CAD						TOTAL COST
<b>TASK B - OTHER TASKS</b>										
1.0	Land Acquisition									
	Property Research									
	Landowner Discussion									
	Boundary Survey & Map									
	<b>Subtotal Hours</b>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	<b>Hourly Rate</b>	\$145.00	\$85.00	\$140.00	\$85.00	\$0.00	\$0.00	\$0.00	\$0.00	
	<b>Subtotal Direct Labor</b>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
<b>TOTAL COST: \$0.00</b>										
<b>TASK B - SUBCONSULTANTS</b>										
Subconsultant	Total Fee	% This Task	Task Fee							
1.0	RBF Consulting (Reservoir Design/Structural/Piping/Hydraulics/Modeling)	\$21,300.00	25%	\$5,325.00						
2.0	Wixon & Associates, LLC (Electrical)	\$7,500.00	25%	\$1,875.00						
3.0	Southeastern Archaeological Research, Inc. (Archaeological)	\$10,000.00	20%	\$2,000.00						
4.0	Geo-Engineering & Testing, Inc. (Geotechnical)	\$5,500.00	20%	\$1,100.00						
5.0	PCR Environmental, LLC (Environmental)	\$2,500.00	15%	\$375.00						
6.0	Rider Levett Bucknall (Cost Estimating)	\$3,084.00	30%	\$925.20						
7.0	Cornerstone Valuation Guam, Inc. (Appraisal)	\$4,500.00	25%	\$1,125.00						
	<b>Subtotal - Subconsultants</b>			\$12,725.20						
	<b>TGE Sub Admin Fee (10%)</b>			\$1,273.00						
	<b>GRT (4.17%)</b>			\$584.00						
<b>TOTAL COST: \$14,582.20</b>										
<b>TASK B - DIRECT EXPENSES</b>										
1.0	Reproduction	Sheets	Sets	Total Pages	Unit Cost	Subtotal				
	Drawings (Full Size - 24x36)	22	2	44	\$1.00	\$44.00				
	Drawings (Tabloid Size - 11x17)	22	3	66	\$0.50	\$33.00				
	Documents (Letter Size - 8.5x11)	260	5	1300	\$0.15	\$195.00				
	CD		1		\$1.00	\$1.00				
	<b>Subtotal - Reproduction</b>					\$273.00				
2.0	Miscellaneous	0	0	0	0					
	<b>Subtotal - Task B Direct Expenses</b>					\$273.00				
	<b>GRT (4.17%)</b>					\$11.00				
<b>TOTAL COST: \$284.00</b>										
<b>TASK B TOTAL FEE</b>								<b>\$30,791.20</b>		

DESIGN TASK	Principal	Project Mgr	Sr Civil Engr II	Sr Civil Engr I	Sr Civil Engr	Jr Civil Engr	CAD	Clerical	TOTAL COST	
<b>TASK C - DESIGN - 90% SUBMITTAL</b>										
1.0 60% - Prepare Response to Comments/Review Meeting					2					
2.0 Site Visit & Site Analysis				4.0		4.0				
3.0 Meetings with GEPA/DPW/DPR / Provide Meeting Minutes				2.0		4.0				
4.0 Civil Plans (10 sheets)			2.0	5.0		10.0	10.0			
5.0 Pump Station & Generator Bldg			2.0	2.0		5.0	5.0			
6.0 Hydrology Calc's										
7.0 Engineering Design Tasks			2.0	2.0		5.0	4.0			
8.0 Engineering Calculations			2.0	2.0						
9.0 System Control Valves			2.0							
10.0 Coordinate Construction Cost Estimate / Review Supporting Logs & Reports						2.0				
11.0 Construction Schedule						2.0				
12.0 Specifications						2.0				
13.0 Coordination of Multi-Discipline Designs		2.0		2.0		2.0				
14.0 Hydraulic & CFD Modeling Review and Coordination										
15.0 QA/QC of Design Documents	2.0	1.0								
16.0 Prepare Submittal Documents		2.0	2.0	5.0		5.0	10.0	5.0		
<b>Subtotal Hours</b>	2.0	5.0	12.0	26.0	0.0	41.0	29.0	5.0		
<b>Hourly Rate</b>	\$175.00	\$170.00	\$165.00	\$135.00	\$105.00	\$85.00	\$105.00	\$48.00		
<b>Subtotal Direct Labor</b>	\$350.00	\$850.00	\$1,980.00	\$3,510.00	\$0.00	\$3,485.00	\$3,045.00	\$240.00	\$13,460.00	
<b>TASK C - OTHER TASKS</b>										
1.0 Land Acquisition										
Property Research										
Landowner Discussion										
Boundary Survey & Map										
<b>Subtotal Hours</b>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
<b>Hourly Rate</b>	\$145.00	\$85.00	\$140.00	\$85.00	\$0.00	\$0.00	\$0.00	\$0.00		
<b>Subtotal Direct Labor</b>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
<b>TASK C - SUBCONSULTANTS</b>										
<b>Subconsultant</b>	<b>Total Fee</b>		<b>% This Task</b>		<b>Task Fee</b>					
1.0 RBF Consulting (Reservoir Design/Structural/Piping/Hydraulics/Modeling)	\$21,300.00		25%		\$5,325.00					
2.0 Wixon & Associates, LLC (Electrical)	\$7,500.00		20%		\$1,500.00					
3.0 Southeastern Archaeological Research, Inc. (Archaeological)	\$10,000.00		0%		\$0.00					
4.0 Geo-Engineering & Testing, Inc. (Geotechnical)	\$5,500.00		0%		\$0.00					
5.0 PCR Environmental, LLC (Environmental)	\$2,500.00		0%		\$0.00					
6.0 Rider Levett Bucknall (Cost Estimating)	\$3,084.00		20%		\$616.80					
7.0 Cornerstone Valuation Guam, Inc. (Appraisal)	\$4,500.00		0%		\$0.00					
	<b>Subtotal - Subconsultants</b>				\$7,441.80					
	<b>TGE Sub Admin Fee (10%)</b>				\$744.00					
	<b>GRT (4.17%)</b>				\$341.00					
							\$8,526.80			
<b>TASK C - DIRECT EXPENSES</b>										
1.0 Reproduction	<b>Sheets</b>	<b>Sets</b>	<b>Total Pages</b>	<b>Unit Cost</b>	<b>Subtotal</b>					
Drawings (Full Size - 24x36)	27	2	54	\$1.00	\$54.00					
Drawings (Tabloid Size - 11x17)	27	3	81	\$0.50	\$40.50					
Documents (Letter Size - 8.5x11)	260	5	1300	\$0.15	\$195.00					
CD		1		\$1.00	\$1.00					
	<b>Subtotal - Reproduction</b>					\$290.50				
2.0 Miscellaneous	0	0	0	0.00						
	<b>Subtotal - Task C Direct Expenses</b>					290.50				
	<b>GRT (4.17%)</b>					12.00				
							\$302.50			
<b>TASK C TOTAL FEE</b>								<b>\$22,289.30</b>		

DESIGN TASK	Principal	Project Mgr	Sr Civil Engr II	Sr Civil Engr I	Sr Civil Engr	Jr Civil Engr	CAD	Clerical	TOTAL COST
<b>TASK D - DESIGN - FINAL SUBMITTAL</b>									
1.0 90%- Prepare Response to Comments/Review Meeting					2				
2.0 Site Visit & Site Analysis									
3.0 Meetings with GEPA/DPW/DPR / Provide Meeting Minutes									
4.0 Civil Plans (10 sheets)			2.0	2.0		5.0	10.0		
5.0 Pump Station & Generator Bldg			2.0	5.0		5.0			
6.0 Engineering Design Tasks			2.0	5.0		5.0			
7.0 Engineering Calculations									
8.0 System Control Valves			1.0						
9.0 Coordinate Construction Cost Estimate / Review Supporting Logs & Reports							4.0		
10.0 Construction Schedule							2.0		
11.0 Specifications			4.0			5.0			
12.0 Coordination of Multi-Discipline Designs		2.0		1.0					
13.0 QA/QC of Design Documents	2.0	1.0							
14.0 Prepare Submittal Documents		1.0	4.0	2.0		5.0	5.0	5.0	
<b>Subtotal Hours</b>	2.0	4.0	15.0	17.0	0.0	31.0	15.0	5.0	
<b>Hourly Rate</b>	\$175.00	\$170.00	\$165.00	\$135.00	\$105.00	\$85.00	\$105.00	\$48.00	
<b>Subtotal Direct Labor</b>	\$350.00	\$680.00	\$2,475.00	\$2,295.00	\$0.00	\$2,635.00	\$1,575.00	\$240.00	\$10,250.00
<b>TASK D - OTHER TASKS</b>									
1.0 Land Acquisition									
Property Research									
Landowner Discussion									
Boundary Survey & Map									
<b>Subtotal Hours</b>	0	0	0	0	0	0	0	0	0
<b>Hourly Rate</b>	\$145.00	\$85.00	\$140.00	\$85.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<b>Subtotal Direct Labor</b>	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<b>TASK D - SUBCONSULTANTS</b>									
<b>Subconsultant</b>	<b>Total Fee</b>		<b>% This Task</b>		<b>Task Fee</b>				
1.0 RBF Consulting (Reservoir Design/Structural/Piping/Hydraulics/Modeling)	\$21,300.00		10%		\$2,130.00				
2.0 Wixon & Associates, LLC (Electrical)	\$7,500.00		10%		\$750.00				
3.0 Southeastern Archaeological Research, Inc. (Archaeological)	\$10,000.00		0%		\$0.00				
4.0 Geo-Engineering & Testing, Inc. (Geotechnical)	\$5,500.00		0%		\$0.00				
5.0 PCR Environmental, LLC (Environmental)	\$2,500.00		0%		\$0.00				
6.0 Rider Levett Bucknall (Cost Estimating)	\$3,084.00		30%		\$925.20				
7.0 Cornerstone Valuation Guam, Inc. (Appraisal)	\$4,500.00		0%		\$0.00				
	<b>Subtotal - Subconsultants</b>				\$3,805.20				
	<b>TGE Sub Admin Fee (10%)</b>				\$381.00				
	<b>GRT (4.17%)</b>				\$175.00				
							\$4,361.20		
<b>TASK D - DIRECT EXPENSES</b>									
1.0 Reproduction	<b>Sheets</b>	<b>Sets</b>	<b>Total Pages</b>	<b>Unit Cost</b>	<b>Subtotal</b>				
Drawings (Full Size - 24x36)	27	2	54	\$1.00	\$54.00				
Drawings (Tabloid Size - 11x17)	27	3	81	\$0.50	\$40.50				
Documents (Letter Size - 8.5x11)	260	5	1300	\$0.15	\$195.00				
CD		1		\$1.00	\$1.00				
	<b>Subtotal - Reproduction</b>				\$290.50				
2.0 Miscellaneous	0	0	0	\$0.00					
	<b>Subtotal - Task D Direct Expenses</b>				\$290.50				
	<b>GRT (4.17%)</b>				\$12.00				
						\$302.50			
<b>TASK D TOTAL FEE</b>								<b>\$14,913.70</b>	

DESIGN TASK	Principal	Project Mgr	Sr Civil Engr II	Sr Civil Engr I	Stf Civil Engr	Jr Civil Engr	CAD	Clerical	TOTAL COST
<b>TASK E - CONSTRUCTION BID SUPPORT SERVICES</b>									
1.0 Assist with questions regarding the bid packages during the bidding phase				2.0		4.0			
2.0 Pre-Bid Conference									
Attend Pre-Bid Conference and prepare meeting minutes				4.0					
Respond to technical questions and provide formal responses				4.0		4.0			
3.0 Assist with preparation of bid addenda				2.0		4.0			
4.0 Assist with reviewing construction proposals received									
Bid Analysis				4.0					
Review of Bid Proposal Process									
Conformance with contract requirements and Guam Procurement Code									
Prepare letter of recommendation of award				1					
<b>Subtotal Hours</b>	0.0	0.0	0.0	17.0	0.0	12.0	0.0	0.0	
<b>Hourly Rate</b>	\$175.00	\$170.00	\$165.00	\$135.00	\$105.00	\$85.00	\$105.00	\$48.00	
<b>Subtotal Direct Labor</b>	\$0.00	\$0.00	\$0.00	\$2,295.00	\$0.00	\$1,020.00	\$0.00	\$0.00	\$3,315.00
<b>TASK E - SUBCONSULTANTS</b>									
<b>Subconsultant</b>	<b>Total Fee</b>		<b>% This Task</b>		<b>Task Fee</b>				
1.0 RBF Consulting (Reservoir Design/Structural/Piping/Hydraulics/Modeling)	\$21,300.00		1%		\$213.00				
2.0 Wixon & Associates, LLC (Electrical)	\$7,500.00		5%		\$375.00				
3.0 Southeastern Archaeological Research, Inc. (Archaeological)	\$10,000.00		0%		\$0.00				
4.0 Geo-Engineering & Testing, Inc. (Geotechnical)	\$5,500.00		0%		\$0.00				
5.0 PCR Environmental, LLC (Environmental)	\$2,500.00		0%		\$0.00				
6.0 Rider Levett Bucknall (Cost Estimating)	\$3,084.00		5%		\$154.20				
7.0 Cornerstone Valuation Guam, Inc. (Appraisal)	\$4,500.00		0%		\$0.00				
<b>Subtotal - Subconsultants</b>					\$742.20				
<b>TGE Sub Admin Fee (10%)</b>					\$74.00				
<b>GRT (4.17%)</b>					\$34.00				
							\$850.20		
<b>TASK E - DIRECT EXPENSES</b>									
1.0 Reproduction	<b>Sheets</b>	<b>Sets</b>	<b>Total Pages</b>	<b>Unit Cost</b>	<b>Subtotal</b>				
Drawings (Tabloid Size - 11x17)	25	2	50	\$0.50	\$25.00				
Documents (Letter Size - 8.5x11)	25	2	50	\$0.15	\$7.50				
<b>Subtotal - Reproduction</b>					\$32.50				
2.0 Miscellaneous	0	0	0	\$0.00					
<b>Subtotal - Task E Direct Expenses</b>					\$32.50				
<b>GRT (4.17%)</b>					\$1.00				
							\$33.50		
<b>TASK E TOTAL FEE</b>							<b>\$4,198.70</b>		

DESIGN TASK	Principal	Project Mgr	Sr Civil Engr II	Sr Civil Engr I	Stf Civil Engr	Jr Civil Engr	CAD	Clerical	TOTAL COST
<b>TASK F - CONSTRUCTION SUPPORT SERVICES</b>									
1.0 Review of shop drawings, design calculations, samples, test results, and other data		4.0				16.0			
2.0 Assist in the review of the Quality Control Plan									
3.0 Chair and record meeting meetings with any other governmental agencies									
4.0 Review requests for clarification or interpretation and provide response to GWA		4.0				16.0			
5.0 Evaluate substitution requests and provide recommendations									
<b>Subtotal Hours</b>	0.0	8.0	0.0	0.0	0.0	32.0	0.0	0.0	
<b>Hourly Rate</b>	\$175.00	\$170.00	\$165.00	\$135.00	\$105.00	\$85.00	\$105.00	\$48.00	
<b>Subtotal Direct Labor</b>	\$0.00	\$1,360.00	\$0.00	\$0.00	\$0.00	\$2,720.00	\$0.00	\$0.00	\$4,080.00
<b>TASK F - SUBCONSULTANTS</b>									
<b>Subconsultant</b>	<b>Total Fee</b>		<b>% This Task</b>		<b>Task Fee</b>				
1.0 RBF Consulting (Reservoir Design/Structural/Piping/Hydraulics/Modeling)	\$21,300.00		4%		\$852.00				
2.0 Wixon & Associates, LLC (Electrical)	\$7,500.00		10%		\$750.00				
3.0 Southeastern Archaeological Research, Inc. (Archaeological)	\$10,000.00		0%		\$0.00				
4.0 Geo-Engineering & Testing, Inc. (Geotechnical)	\$5,500.00		0%		\$0.00				
5.0 PCR Environmental, LLC (Environmental)	\$2,500.00		0%		\$0.00				
6.0 Rider Levett Bucknall (Cost Estimating)	\$3,084.00		0%		\$0.00				
7.0 Cornerstone Valuation Guam, Inc. (Appraisal)	\$4,500.00		0%		\$0.00				
<b>Subtotal - Subconsultants</b>					\$1,602.00				
<b>TGE Sub Admin Fee (10%)</b>					\$160.00				
<b>GRT (4.17%)</b>					\$73.00				
							\$1,835.00		
<b>TASK F - DIRECT EXPENSES</b>									
1.0 Reproduction	<b>Sheets</b>	<b>Sets</b>	<b>Total Pages</b>	<b>Unit Cost</b>	<b>Subtotal</b>				
Drawings (Tabloid Size - 11x17)	200	2	400	\$0.50	\$200.00				
Documents (Letter Size - 8.5x11)	310	2	620	\$0.15	\$93.00				
<b>Subtotal - Reproduction</b>					\$293.00				
2.0 Miscellaneous	0	0	0	\$0.00					
<b>Subtotal - Task F Direct Expenses</b>					\$293.00				
<b>GRT (4.17%)</b>					\$12.00				
							\$305.00		
<b>TASK F TOTAL FEE</b>							<b>\$6,220.00</b>		

<b>TOTAL - AGFAYAN BOOSTER PUMP STATION</b>	<b>\$138,338.50</b>
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